

ABSTRACT

A support structure for isolating earthquake motions having a pressure receiving concave curved steel plate connected with the ground and a pressure applying convex curved steel plate facing with said concaved steel plate and connected with a column of a structure.

The support structure has a pluralities of large balls and small balls with (less accuracy) smaller diameter than that of pressure-receiving balls between said two plates in a state that they are mounted to come in point contact in all directions. Earthquake is isolated by a simultaneous rotation of these two groups of balls in frictionless state.

The lower portion of the support structure is surrounded by a hoop to suppress the foundation column not to remove from pressure receiving balls in case of jump-up phenomenon caused by directly under earthquake or float-up phenomenon caused by typhoon etc..